R E P O R T R E S U M E S

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FIELD CHECK MANUAL FOR LANGUAGE LABORATORIES, A SERIES OF TESTS WHICH A NON-TECHNICAL PERSON CAN CONDUCT TO VERIFY SPECIFICATIONS.

BY- GRITTNER, FRANK PAVLAT, RUSSELL
WISCONSIN STATE DEPT. OF PUB. INSTR., MADISON

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IN ORDER TO ASSIST NON-TECHNICAL PEOPLE IN SCHOOLS TO CONDUCT A FIELD CHECK OF LANGUAGE LABORATORY EQUIPMENT BEFORE THEY MAKE FINAL PAYMENTS, THIS MANUAL OFFERS CRITERIA, TESTS, AND METHODS OF SCORING THE QUALITY OF THE EQUIPMENT. CHECKLISTS ARE PROVIDED FOR EVALUATING CONSOLE FUNCTIONS, TAPE RECORDERS, AMPLIFIERS, SOUND QUALITY (INCLUDING EXTRANEOUS NOISE AND FREQUENCY RESPONSE), AND SERVICE AND MAINTENANCE FACTORS. (AS)

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Field Check Manual for Language Laboratories

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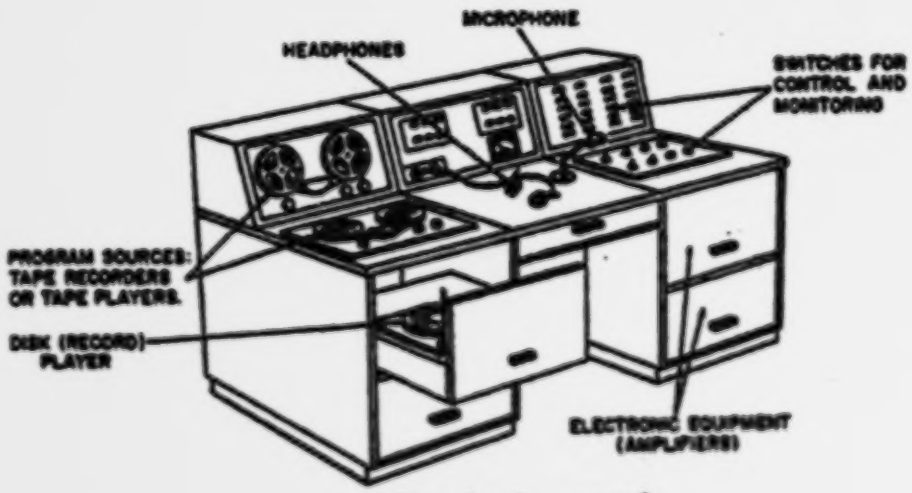

Teacher's console.

FL 000 458

Angus B. Rothwell

State Superintendent

FIELD CHECK MANUAL FOR LANGUAGE LABORATORIES

A Series of Tests Which a Non-Technical Person Can Conduct to Verify Specifications

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Angus B. Rothwell, State Superintendent

Robert C. Van Raalte
Assistant Superintendent, Supervision

Russell Mosely, Director
National Defense Education Act Program

* * * * * * * * * * * *

Items Edited, Selected, and Written By:

Frank Grittner, Supervisor
Modern Foreign Languages

and

Russell Pavlat, Engineering Consultant
State Bureau of Engineering

INTRODUCTION

Why Test the Installation?

The need to test the language laboratory equipment before final payment has been clearly stated by Alfred Hayes:

> "Let us assume that reliable criteria have been used in making the original choice of the equipment. Let us assume further that the manufacturer has delivered components which, to the best of his knowledge, do meet the specifications agreed upon. There is still a vast difference in technical complexity between a sample demonstration or trial arrangement and a complete multiple-position installation. Hence, the need for precise checking of details of performance.
>
> Equipment for making instrumental measurements of language-laboratory performance is seldom available to schools. Such measurements are not easy to make and interpret even under the best of conditions. Perhaps the best procedure is to employ a competent technical consultant, who must agree that the specifications of the system have been properly met by the manufacturer before the installation is approved and final payment made. Properly qualified technical consultants, however, are sometimes hard to find. Certain suggestions are therefore included here which may be of use to school personnel."*

Free Consultant Help and Testing Limitations.

The tests which follow do not pretend to be exhaustive. Rather they serve only to reveal difficulties which are symptomatic of more profound problems caused by improper installations or by basic flaws in equipment design. If the successful bidder is unable to correct the difficulties within the warantee period, a school which has made use of the State Specifications has recourse to test Clause 13.0. Further, the school may request a consultation with the Foreign Language Supervisor, Department of Public Instruction, NDEA, Title III.

When to Conduct the "Field Check".

A "Field Check" should be made prior to final payment for the language laboratory to determine whether or not further testing by a qualified technician is required. Often it is difficult to obtain the services of the free consultants mentioned above. If the school desires, local personnel can usually conduct such preliminary tests without difficulty.

Additional copies of the "Language Laboratory Field-Check Manual" are available from the State Supervisor of Modern Foreign Languages, 147 North Capitol, Madison, Wisconsin 53702.

*There will be frequent quotations in this manual from Alfred Hayes, Language Laboratory Facilities, OE-21024, Bulletin 1963, No. 37, U. S. Office of Education, U. S. Government Printing Office, Washington, D. C., hereafter referred to as "Hayes" plus page number.

A. CONSOLE FUNCTIONS IN EVALUATING LABS.

1. Physical and Operational Factors.

Functions Found	Circle "yes" for Function Ordered		Comments & Additions
a. Individual programming	yes	no	
b. Group programming (to banks of booths)	yes	no	
c. Monitoring	yes	no	
d. Intercom	yes	no	
e. Signal light buzzer	yes	no	
f. All Call	yes	no	
g. Recording facility	yes	no	
Tape to tape	yes	no	
Record to tape	yes	no	
Booth to tape at console	yes	no	
h. Auxiliary inputs	yes	no	
i. Quick-disconnect plugs & rec.	yes	no	
j.	yes	no	
k.	yes	no	
l.	yes	no	
m.	yes	no	
n.	yes	no	
o.	yes	no	
p.	yes	no	
q.	yes	no	
r.	yes	no	
s.	yes	no	
t.	yes	no	

2. Communications Problems.

a. Program crosstalk. (Play different programs through each program source and listen to each booth headphone. Note any signal cross-over and list booth numbers in which it occurs.)

Evidence of crosstalk. (sample notation)

(1) French, German, Spanish, & English tapes played to booths ____, ____, & ____.

(2) In addition to the desired source, which signals were clearly audible in booths ____, ____, & ____? (Note all crosstalk items.)

b. Intercom crosstalk. (Follow procedures under (1) above. In addition, have another person depress intercom switch to adjacent booths or rows.)

Evidence of crosstalk.

Programs from tape decks ___, ___, ___ were sent to all booths (or rows) ___, ___, ___.

These programs were audible in booths adjacent. (Note all crosstalk items) Yes No

3. Monitering.

One at a time tell the student at each position to record the number of times you listen to him. Each student at each position will have a sheet with the following notation:

The instructor monitored my position

___5 times
___4 times
___3 times
___2 times
___1 time
___0 times

I could tell because _____.

The teacher should monitor each student the same number of times and then collect the slips. Positions for which students responded correctly should be carefully checked, perhaps by an adult listener. Any change in signal, click, or pop should be noted. CAUTION: Care must be taken to activate only the monitor switch -- not the intercommunication switch.

B. TAPE RECORDER EVALUATION FOR LANGUAGE LAB.

1. Physical factors.

Motor type bid	Motor type found in lab
a. ___ 1 motor	a. ___ 1 motor
b. ___ 2 motor	b. ___ 2 motor
c. ___ 3 motor	c. ___ 3 motor
Brand name of transport mechanism and catalogue number _____ _____	Brand name of transport mechanism and catalogue number _____ _____
d. ___	d. ___
e. ___	e. ___
f. ___	f. ___
g. ___	g. ___
h. ___	h. ___
i. ___	i. ___
j. ___	j. ___

2. Operational factors.

Comments on tape recorder
a. ___ Noisy
b. ___ Tape breakage
c. ___ Tape brake faulty
d. ___ Wow and flutter
e. ___ Tape piles up when stopping from fast rewind or fast forward
f. ___ Hum

3. General mechanical performance.

"Check all tape recorders and tape players for proper tape handling. Controls and switches should work easily. In systems using reel-to-reel tape equipment, tape-travel from reel to reel should be smooth and even. When the tape transport is stopped, tape-motion should cease abruptly, with very little coasting, yet with no apparent tendency to break or distort tape. If a tape-cartridge system is used, several different cartridges should be inserted and checked for smooth operation." (Hayes, p. 96)

C. AMPLIFIER EVALUATION FOR LANGUAGE LAB.

Brand name of amplifier bid (including catalogue number)	Brand name of amplifier found in lab (including catalogue no.)
_____	_____
_____	_____

D. SOUND-QUALITY* (Hayes, p. 51.)

1. Extraneous noise. Note the presence of any of the following at any student position or at the console.

___Hum, a steady tone of low or medium pitch which is present whenever the equipment is turned on, and may or may not increase with changes in the volume setting.

___Feedback, a squealing sound. (A live microphone held directly in front of a live headphone or loudspeaker will practically always produce feedback.)

___Various kinds of static-like noises, called by technicians, according to the probable source, AC (alternating current) hash, frying, or grid whine.

___Microphonics, a metallic ringing or echoing sound, accentuated when the equipment is moved or jarred.

2. Frequency response. According to Hayes, it is possible for a non-technical person to check frequency response:

> "A general check of frequency response and distortion characteristics can be made as follows: Make a tape recording, again using a professional recorder and microphone, if available. The recording should be made by someone other than the person who is to be the judge of the quality of reproduction when the tape is played over the language-laboratory system. Record three lists of English words, about twenty words in each list, in a random order not known to the listner..." (Hayes, p. 97)

Following Hayes's suggestions, we have compiled such a list and recorded it using a full-track Ampex 601. The answer sheet shown here may be duplicated for the student. The answers, of course, should be withheld.

FREQUENCY RESPONSE TEST TAPE SCRIPT (FOR TEACHER ONLY)

(Recorded full-track, Ampex 601, tape available from Foreign Language Supervisor.)

(Play the tape to all positions in the lab. There should be a student in each position. The console and all student amplifiers should be activated. The person administering the test should monitor it at all times. Student microphones should be turned to minimum volume.)

If you can hear this, raise your hand. . .Thank you. You may now lower your hand and adjust the program volume control for comfortable listening. Today's test is designed to measure a student's ability to distinguish sounds which are played from the console to his headphones. Look now at your answer sheet which is labeled "Frequency Response Test Sheet". You will hear 20 words read for column A. Spell each word as you hear it. Do not leave any blanks. If you are not sure of word, guess. Put down what you think you hear. We will do column A first, then column B, and finally column C. We will now stop the tape for a moment. If you have a question, please raise your hand. (Stop tape. Answer any questions)

Now we will begin. Remember write clearly or print what you think you hear.

Column A	Column B	Column C
1. thick	1. seal	1. throw
2. path	2. Russ	2. loath
3. moss	3. fin	3. baff
4. bass (rhyme with pass)	4. four	4. fad
5. sigh	5. sore	5. oath
6. song	6. sign	6. free
7. myth	7. knife	7. fro
8. thong	8. miss	8. bath
9. thav.	9. gaff	9. three
10. mass	10. rough	10. Ruth
11. bath	11. sad	11. Thad
12. math	12. feel	12. miff
13. saw	13. gas	13. thin
14. sick	14. fad	14. roff (Rufe)
15. thin	15. miff	15. thigh
16. pass	16. sin	16. he
17. miss	17. fine	17. loaf
18. moth	18. chafe	18. fin
19. thigh	19. nice	19. myth
20. sin	20. chase	20. onf

This is the end of the test. Please write your booth number in the upper right corner of the paper. This test will in no way effect your grade. It is a measure of the fidelity of the equipment. Listen now for final instructions from the console.

Booth Number ___

FREQUENCY RESPONSE TEST -- ANSWER SHEET

Column A	Column B	Column C
1._____	1._____	1._____
2._____	2._____	2._____
3._____	3._____	3._____
4._____	4._____	4._____
5._____	5._____	5._____
6._____	6._____	6._____
7._____	7._____	7._____
8._____	8._____	8._____
9._____	9._____	9._____
10._____	10._____	10._____
11._____	11._____	11._____
12._____	12._____	12._____
13._____	13._____	13._____
14._____	14._____	14._____
15._____	15._____	15._____
16._____	16._____	16._____
17._____	17._____	17._____
18._____	18._____	18._____
19._____	19._____	19._____
20._____	20._____	20._____

FREQUENCY RESPONSE TEST -- SCORING

A. Total number of errors... _____

B. Total number of students tested... _____

C. Raw score $\frac{A}{B}$ _____

For interpretation of "Raw Score" contact the State Foreign Language Supervisor.

E. SERVICE AND MAINTENANCE FACTORS.

A school with a language laboratory can expect the following performance from the installation and the installer:

1. The entire laboratory (with the exception of one or two positions on occasion or one of the console components) is in uninterrupted operation for an entire year. All programs come through clearly, the students can all be heard clearly through the monitoring facility, the interroom facility functions clearly, and no students ever hears any other voice or program through the line that the teacher did not send to his position through switching arrangements at the console.

2. A service man who knows how to make repairs appears within 4 to 48 hours after the school has notified the installer that trouble has developed.

3. There have been no more than one or two occasions where the planned work could not be carried on properly because the equipment did not perform adequately.

4. All problems were eliminated during the first year and the equipment performs in the manner promised by the installer and in a manner which makes it a satisfactory teaching device.

Answers to above questions. (Circle most accurate answer)

1. Our lab performs: A. In the manner described above.
   B. Dependably on the whole, but with more frequent breakdowns than above.
   C. Irratically, but with periods of good performance which extend over a period of about one month.
   D. So poorly as to indicate that it is not worth the trouble and money.

2. Service has been:
   A. As described above.
   B. A little late, but effective when it is done (within a week to ten days)
   C. Sometimes fast and good; at other times late and ineffective.
   D. Non-existant or largely ineffective.

3. Disruption of class work has been:

   A. So slight as not to merit comment.
   B. Slightly annoying, but not serious.
   C. A serious problem at times, but compensated for by the periods that went smoothly.
   D. So serious as to negate the values that might have been realized from the installation.

4. The mechancial and electronic problems:

   A. Have now been taken care of.
   B. Have been mostly solved with a few minor exceptions.
   C. Have been partly solved, and the installer is working regularly on the remaining ones.
   D. Have not been solved to a degree that would make the lab period worth the trouble that will invariably be encountered.

If any D's are scored, the equipment is unsatisfactory. Two B's and two C's would represent minimal service and maintenance.

In the opinion of the State Bureau of Engineering failure to pass any of the tests given above is a strong indication that the laboratory is an inadequate language teaching device.